

# Histogram Grammar Weighting and Error Corrective Training of Grammar Weights

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## ABSTRACT

A multi-level method for estimating and training weights associated with grammar options is presented. The implementation of the method implemented differs depending on the amount of utterance data available for each option to be tuned. A first implementation, modified maximum likelihood estimation (MLE), can be used to estimate weights for a grammar option when few utterances are available for the option. Option weights are then estimated using an obtainable statistic that creates a basis for the predictability model. A second implementation, error corrective training (ECT), can be used to estimate option weight when a sufficiently large number of utterances are available. The ECT method minimizes the errors in the score of the correct interpretation of the utterance and the highest scoring incorrect interpretation in an utterance training set. The ECT method is iterated to converge on a solution for option weights.